



State of Idaho

**DEPARTMENT OF WATER RESOURCES**

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DIRK KEMPTHORNE  
Governor

KARL J. DREHER  
Director

December 3, 2004

NORMAN K SOWARDS  
1719 FINCH RD  
HAYDEN LAKE, ID 83835

Dear Mr. Sowards,

Gary Spackman requested that I review your letter dated November 22, 2004 and the accompanying graphs. The purpose of this correspondence is to provide you with the results of my review and attempt to address your concerns.

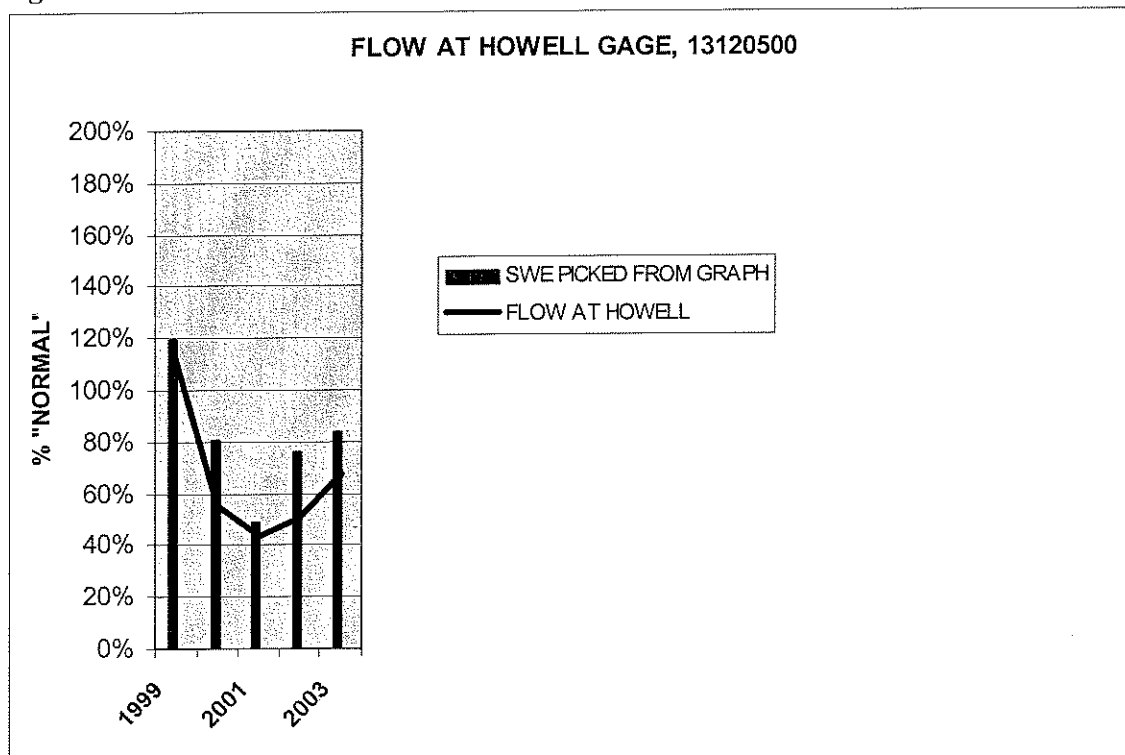
It appears you put in a fair amount of work to produce the graph showing snow water equivalent (SWE) and reservoir inflow, and we appreciate you sharing it with us. I did some cross-checking with Idaho Department of Water Resource (IDWR) records and determined the data to be very accurate. As you point out in your letter, this graph does show a considerable decrease in reservoir inflow starting in the 2001 season. However, your concern that the reservoir is not receiving adequate runoff in the last couple of years due to excessive diversions above the reservoir is probably not valid. There are a couple of reasons for this that I will explain.

First, there has been extensive efforts by both the watermaster and IDWR staff in the last two years to assure the upper diversions from Mackay reservoir are regulated as stringently as below the reservoir. These efforts included sending an administrative order to the water users above the reservoir requiring adequate locking headgates and measuring devices prior to the 2002 irrigation season. A number of enforcement actions were initiated by IDWR against non-compliant users above the reservoir. Starting in 2003, IDWR also extended the computer based accounting program used on the Big Lost below the reservoir to the upper river reaches. Using this computer program provides more over site abilities to IDWR staff, and helps assure proper regulating conduct by the watermaster. As part of this effort, the watermaster's office has been sending diversion data for diversions above and below the reservoir directly to IDWR via an internet application. Because of these efforts, the practice of over-diverting above the reservoir has been limited in the last two years relative to previous years.

Second, the phenomenon of diminished inflow to the reservoir during drought conditions is evident in other dry years, such as 1961. Your graphs shows 30 plus percentage point discrepancy between average inflow and SWE in 1961 and 1962. There were three consecutive years of drought starting in 1959. There have been four consecutive years of drought since 2000. A statistical analysis would probably show these departures as significant, but the reason for the departures is more likely the cumulative effects of drought on the snowmelt-runoff regime. The runoff is lower because of a higher than normal portion of snowmelt infiltrating into dry mountain soils after consecutive years of drought.

I did an analysis using the past five years of data for the Howell gage, and plotted the April through September flow as a percentage of average along with your SWE data (see Figure 1). The Howell gage is located above major diversions above the reservoir, and should be representative of unregulated runoff from the mountains into the Big Lost system. The graph in Figure 1 shows essentially the same pattern and magnitude of discrepancy between SWE and flow at the Howell gage as your graph shows for 1999 through 2003 reservoir inflows. This would also suggest that a lack of runoff is more to blame for lower inflow to the reservoir than over-diverting above the reservoir.

**Figure 1**



The other graph you provided showing water level declines in the USGS monitor well clearly illustrates the situation that has led to the implementation of conjunctive

administration. As is probably obvious, these declines have resulted from ground water use occurring at the same rates during drought years as in normal water years, and from decreased recharge in recent dry years.

Curtailment of ground water use may reverse the adverse impacts to wildlife and aesthetics. However, as many land owners in the valley derive their livelihood from irrigated agriculture, curtailing ground water use would likely adversely impact the valley economy. Curtailment of ground water use is not explicitly allowed for injury to wildlife and aesthetics. Water District 34 rules (IDAPA 37.03.12) provide for curtailment under the following condition:

**Rule 50.05. Direct Interference.** This rule does not prevent a senior surface water user from seeking curtailment and/or damages from a junior ground water user when the senior surface water user can show direct identifiable impact on the water supply for the senior water right as a result of the diversion of water pursuant to the junior ground water right.

IDWR's committed to continued meetings and assistance to the Big Lost water users to hopefully arrive at a solution acceptable to all parties and within current state rules and statutes that will ensure equitable use of a scarce resource. Your continued participation and input to this process is greatly appreciated. Please call to discuss this letter or my findings if you wish. My direct number is 208-287-4957. I look forward to hearing from you.

Sincerely,

A handwritten signature in black ink, appearing to read "Steve Burrell", with a stylized, cursive script.

Steve Burrell  
Water Distribution Section Engineer

c: IDWR WD 34 SO file